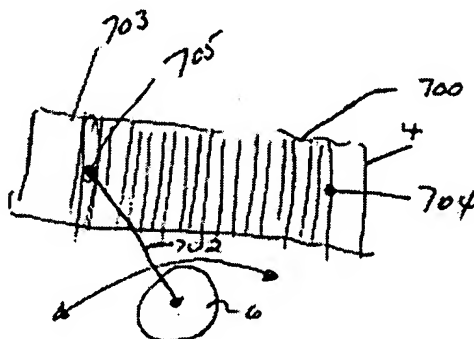


REMARKS/ARGUMENTS

Claims 1-20 remain pending in the instant application. Claims 1 and 12-14 have been amended. Support for the amended claims can be found in the specification as originally filed. No new matter has been introduced by virtue of these amendments.

In the latest office action, the Examiner objected to the drawings. Specifically, the Examiner objected to Figure 2 based upon a purported line between reference nos 4 and 6. Applicants respectfully assert that it is unclear precisely what the Examiner is objecting to in Figure 2.

Specifically, Figure 2 of the application as originally filed, together with accompanying text from the application describing this original Figure 2, are reproduced below:



[0003] Figure 2 shows a simplified cut-away view of the internal components of the conventional transformer 4. Specifically, the control knob controls physical connection between a exposed windings 700 on the secondary side of transformer 4 and mechanical wiper 702 at connection point 705. When the knob 6 and wiper 702 are turned clockwise, wiper 702 allows additional winding 700 of the transformer to be connected on the secondary side of the transformer. This in turn increases the voltage and thus the power available to operate the model train. (Emphasis added)

Applicants respectfully assert that the line between reference nos. 4 and 6 is the wiper clearly labeled in the original Figure 2 with the reference number 702. The Examiner is requested to withdraw the objection, or provide additional information regarding this drawing objection in the next office action.

Regarding the objection to Figures 3A-B, please find filed with this response a replacement set of formal drawings. This replacement drawing set clarifies Figure 3A to indicate

that a zero (0) is present next to control knob 312. This replacement drawing set also clarifies that the word "OR" is present between boxes 359 and 309. No amendments to the drawings are presented in these replacement sheets, and no new matter has been added. Based upon submission of these replacement drawing sheets, it is respectfully asserted that the objections to the drawings have been overcome.

In the latest office action, the Examiner also objected to the specification for purportedly failing to provide support for the claimed subject matter. This objection to the specification is traversed as follows.

Specifically, the Examiner objected to the specification for failing to provide description of a "control wheel". In response, the Examiner's attention is respectfully drawn to ¶[0050] of the instant application as originally filed, which reads as follows:

[0050] Although one specific embodiment has been described above, the present invention can be embodied in other specific ways without departing from the essential characteristics of the invention. Thus while Figures 3A-B show a controller wherein electrical pulses indicating rotation of the control wheel are generated utilizing transmission of an optical beam through a gap, this is not required by the present invention. Alternative embodiments in accordance with the present invention could utilize other ways of generating electrical pulses based upon rotation of a control wheel knob. (Emphasis added)

This paragraph, as well as others (i.e. ¶[0045], ¶[0047], ¶[0045]) in the specification as originally filed, provide ample support for the term "control wheel" recited in the claims of the instant application. Continued objection to the specification is therefore improper, and this objection should be withdrawn.

Also based upon recitation of a "control wheel", the Examiner has rejected claims 1-20 as not enabling under 35 U.S.C. §112 ¶1, and as indefinite under 35 U.S.C. §112 ¶2. These claim rejections are overcome as follows.

As a preliminary matter, the Examiner is reminded that "in establishing a disclosure, applicant may rely not only on the description and drawing as filed, but also the original claims . . ." (Emphasis added; MPEP 608.01(I)).

As described above, even without considering the originally-filed claims as part of the specification, the application as originally filed contains ample disclosure of a "control wheel".

Such disclosure, taken together with recitation of a "control wheel" in a number of the originally filed claims, indicates that the instant application must certainly be considered to describe that claim element with sufficient definiteness. The Examiner's rejection of the claims under 35 U.S.C. §112 ¶2 is improper and should be withdrawn.

Regarding the enablement rejection, "the test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." MPEP §2164.01, citing United States v. Teletronics, Inc., 857 F.2d 778, 785 (Fed. Cir. 1988). The MPEP lists the following factors as potentially relevant to whether experimentation is "undue":

- (A) The breadth of the claims;
- (B) The nature of the invention;
- (C) The state of the prior art;
- (D) The level of one of ordinary skill;
- (E) The level of predictability in the art;
- (F) The amount of direction provided by the inventor;
- (G) The existence of working examples; and
- (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure. MPEP 2164.01(a), citing In re Wands, 858 F.2d 731, 737 (Fed.Cir. 1988)

Here, at least factors (B), (E), and (F) strongly disfavor finding "undue" experimentation in the present case. Specifically, the nature of the present application relates to controlling model trains utilizing electromechanical devices. The relevant art thus exhibits a high level of predictability, as it is based upon the exercise of well-established mechanical and electrical principles.

Moreover, the inventor has provided substantial direction in the application regarding use of a control wheel or knob to regulate velocity. As described above, in ¶[0050] of the application, the inventors describe a control wheel. Other passages from the instant specification, most notably ¶[0044-0049], also describe user manipulation of a rotatable element in order to control velocity of a model vehicle.

Based at least upon the above, it is respectfully asserted that the pending claims are sufficiently enabled by the instant application as originally filed. Continued rejection of the claims for lack of enablement is improper, and the claim rejections should be withdrawn.

The Examiner also rejected claim 13 under 35 U.S.C. §112 ¶1 for failing to comply with the written description requirement. These claim rejections are overcome as follows.

As a threshold matter, the Examiner is reminded of the strong presumption of an adequate written description afforded claims originally filed with the application. (MPEP §2163 IA., citing In re Wertheim, 541 F.2d at 262, 191 USPQ at 96). Consequently, rejection of an original claim for lack of written description should be rare. Revised Interim Guidelines for Examination of Patent Applications Under the 35 U.S.C. §112, first paragraph, 'Written Description' Requirement; 64 Fed. Reg. 71427, 71428 (Dec. 21, 1999).

Moreover, "the subject matter of the claim need not be described literally (i.e. using the same term or *in haec verba*) in order for the disclosure to satisfy the description requirement." (MPEP §2163.02). Normally a reduction to drawings will adequately describe the claimed invention, and is especially true for the mechanical and electrical arts. See Pfaff v. Wells Electronics, 119 S. Ct. 304, 312, 48 USPQ 2d 1641, 1647 (1988).

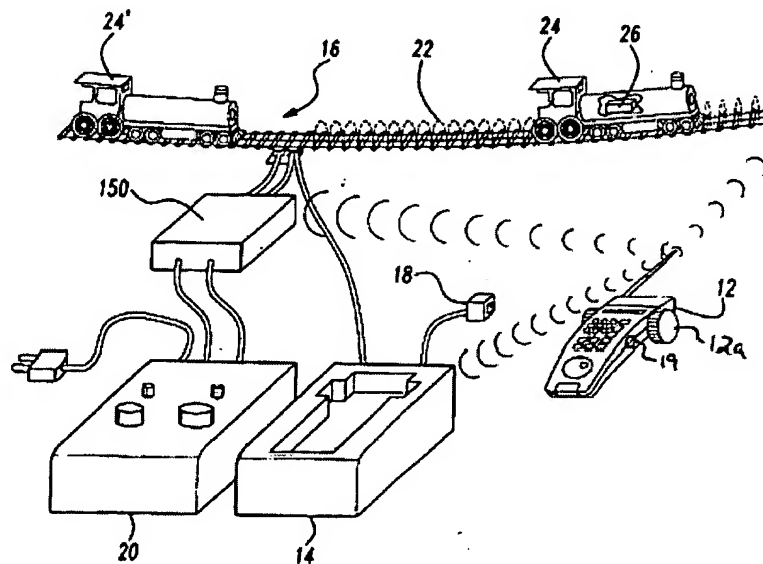
Claim 13 was present in the application as originally filed. This claim is therefore entitled to a strong presumption of having satisfied the written description requirement.

Furthermore, it is noted that at least ¶[0044]-[0049] of the instant application contain a detailed description of the use of multiplication factors in the controlling velocity. Based at least upon disclosure of claim 13 in the application as originally filed, as well as the detailed discussion of the subject matter of claim 13 in the application, it is respectfully asserted that claim 13 satisfies the written description requirement. Rejection of claim 13 on this ground is improper, and the rejection should be withdrawn.

Claims 14-18 were rejected under 35 U.S.C. §112 for failing to provide proper antecedent basis for several claim terms. Claim 14 has now been amended to depend from claim 13 and thereby provide antecedent basis. Claim 12 has been amended to refer to the "control knob", thereby providing antecedent basis for this term in dependent claims 15-18.

Turning now to address prior art claim rejections, the Examiner rejected claims 1-20 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent. No. 6,179,105 to Haass ("the Haass Patent"), in combination with other references. These claim rejections are overcome as follows.

Embodiments in accordance with the present invention relate to methods and apparatuses wherein a user can rotate a knob or wheel to regulate velocity of a model vehicle:



[0064] Remote unit 12 includes control knob 12a that is actuable in accordance with the present invention. Remote unit 12 also includes mechanism 19 for determining both the position and speed of rotation of control knob 12a, for example a wheel having spokes configured to selectively permit transmission of light along a pathway, as described above in connection with the Embodiment of Figures 3A-B.

[0065] When knob 12a of wireless interface device 12 is turned slowly, the location of the knob dictates the velocity of the selected locomotive. When, however, knob 12a of the wireless interface 12 is turned more rapidly, this rotational speed may dictate velocity of the selected locomotive.

Pending independent claims 1 and 12 accordingly recite a method and apparatus, respectively, in which a knob or wheel is rotated by a user to control velocity:

1. A method for controlling velocity of a model vehicle, the method comprising:
providing a control wheel configured to rotate within a range of positions;

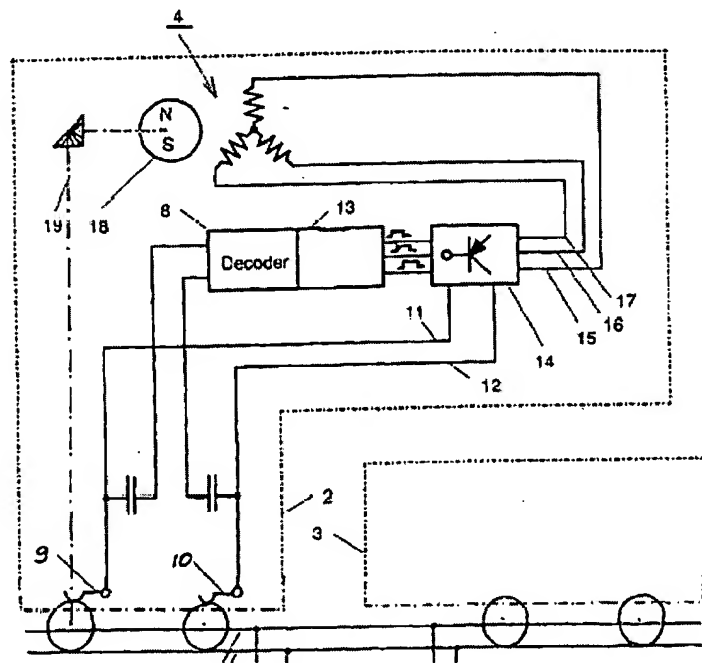
determining a speed of rotation of the control wheel by a user over a period of about 50 milliseconds or less;
 correlating the magnitude of power provided to the model vehicle with a speed of rotation of the wheel. (Emphasis added)

* * *

12. An apparatus for providing power to a model vehicle, the apparatus comprising:
 a control knob configured to be rotated by a user over a range of positions;
 a sensing element in communication with the control knob and configured to detect a speed of rotation of the knob over a period of about 50 milliseconds or less; and
 a processor in electrical communication with the sensing element, the processor configured to correlate knob rotational speed with a magnitude of power provided from a source to a model vehicle.

In order to establish a prima facie case of obviousness, "the prior art reference (or references when combined) must teach or suggest all the claim limitations." MPEP 2142. Here, even when combined, the references relied upon by the Examiner fail to teach, or even suggest, a control knob or wheel that is rotatable by a user.

Figure 1 of the Haass patent cited by the Examiner is reproduced in part below:



Motor (4) including rotor (18) may be used to cause movement of model vehicles (2 and 3).

Three phases of a three phase stator winding of the motor are connected to lines (15-17):

rotor 18 associated with the stator has the form of a synchronous machine magnet wheel, the shaft of which drives a wheel set of the model vehicle 2 via a driving connection 19. The pulse frequency of the output pulse sequences of the pulse generator unit 13 determines the rotary speed of the rotary field generated by the stator of the synchronous motor 4 and thus the rotary speed of the rotor 18 in a clearly defined association. (Emphasis added; col. 4, lines 9-16)

In no sense, then, can rotor (18) of the Haass patent be understood as intended for rotation by a user in order to control train speed. Rather, this rotor comprises an intrinsic part of the motor that is responsible for converting electronic energy into the physical motion of the model vehicle. There is absolutely not teaching or even suggestion in the Haass patent, regarding an element rotatable by a user in order to regulate speed of the model vehicle.

Combination of the Haass patent with the CUI reference does nothing to supply this missing teaching. Specifically, the CUI reference is a technical specification for an encoder that can be manually rotated by a user. However, there is no teaching or even suggestion, in the reference combination relied upon by the Examiner, regarding how the CUI encoder could be incorporated with the system of the Haass patent to allow a user to control velocity in accordance with the claimed embodiments.

The Examiner has also rejected claim 18 as obvious in light of the Haass patent and the CUI reference, further in view of U.S. Patent No. 6,529,139 to Behun et al. ("the Behun patent"). However, the Behun patent also signally fails to teach or suggest user rotation of a control knob or wheel in order to control velocity.

The Behun patent describes an antenna structure for use in controlling model vehicles utilizing a remote device. There is no teaching, or even suggestion, in the Behun patent, regarding user rotation of a knob in order to control velocity in the manner claimed.

Based upon the failure of the references relied upon by the Examiner to teach, or even suggest, each and every element of claims 1 and 12, it respectfully asserted that these independent claims, as well as claims depending therefrom, are not obvious. Maintenance of the obviousness claim rejections is improper, and these claim rejections should be withdrawn.

Appl. No. 10/723,460
Response to Office Action Mailed June 28, 2005



PATENT

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Kent J. Tobin".

Kent J. Tobin
Reg. No. 39,496

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